

SEQUENCE LISTING

(1) GENERAL INFORMATION:

- (i) APPLICANT: Lockhart, David J.
Chee, Mark
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Barone, Anthony D.
AFFYMETRIX, INC.
- (ii) TITLE OF INVENTION: NUCLEIC ACID ANALYSIS TECHNIQUES
- (iii) NUMBER OF SEQUENCES: 32
- (iv) CORRESPONDENCE ADDRESS:
 - (A) ADDRESSEE: Joe Liebeschuetz
 - (B) STREET: Two Embarcadero Center, Eighth Floor
 - (C) CITY: San Francisco
 - (D) STATE: CA
 - (E) COUNTRY: USA
 - (F) ZIP: 94111-3834
- (v) COMPUTER READABLE FORM:
 - (A) MEDIUM TYPE: Floppy disk
 - (B) COMPUTER: IBM PC compatible
 - (C) OPERATING SYSTEM: PC-DOS/MS-DOS
 - (D) SOFTWARE: PatentIn Release #1.0, Version #1.30
- (vi) CURRENT APPLICATION DATA:
 - (A) APPLICATION NUMBER: US 08/882,649
 - (B) FILING DATE: 25-JUN-1997
 - (C) CLASSIFICATION: 435-006.000
- (vii) PRIOR APPLICATION DATA:
 - (A) APPLICATION NUMBER: US 60/010,471
 - (B) FILING DATE: 23-JAN-1996
- (vii) PRIOR APPLICATION DATA:
 - (A) APPLICATION NUMBER: US 60/035,170
 - (B) FILING DATE: 09-JAN-1997
- (viii) ATTORNEY/AGENT INFORMATION:
 - (A) NAME: Liebeschuetz, Joe
 - (B) REGISTRATION NUMBER: 37,505
 - (C) REFERENCE/DOCKET NUMBER: 018547-019410US
- (ix) TELECOMMUNICATION INFORMATION:
 - (A) TELEPHONE: (415) 576-0200
 - (B) TELEFAX: (415) 576-0300

(2) INFORMATION FOR SEQ ID NO:1:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 20 base pairs
 - (B) TYPE: nucleic acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: DNA (genomic)
- (iii) HYPOTHETICAL: YES
- (ix) Features:
 - (A) NAME/KEY: PROBE
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO:1:

AGCTTTTTTTCATGCATCTAT

20

(2) INFORMATION FOR SEQ ID NO:2:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 20 base pairs
 - (B) TYPE: nucleic acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: DNA (genomic)
- (iii) HYPOTHETICAL: YES
- (ix) Features:
 - (A) NAME/KEY: PROBE 1
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO:2:

AAGCGCGATC GATTATGCTC

20

(2) INFORMATION FOR SEQ ID NO:3:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 43 base pairs
 - (B) TYPE: nucleic acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: DNA (genomic)
- (iii) HYPOTHETICAL: YES
- (ix) Features:
 - (A) NAME/KEY: GENE 2
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO:3:

ATCTCGGATC GATCGGATAA GCGCGATCGA TTATGCTCGG CGA

43

(2) INFORMATION FOR SEQ ID NO:4:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 12 base pairs
 - (B) TYPE: nucleic acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: DNA (genomic)
- (iii) HYPOTHETICAL: YES
- (ix) Features:
 - (A) NAME/KEY: ANCHOR PRIMER
 - (B) N = 6-30 T residues in length
 - (C) V = A, C or G
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO:4:

NVANVGNVN VT

12

(2) INFORMATION FOR SEQ ID NO:5:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 29 base pairs
 - (B) TYPE: nucleic acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: DNA (genomic)
- (iii) HYPOTHETICAL: YES
- (ix) Features:
 - (A) NAME/KEY: PCR Primer
 - (B) 3' end has an additional 19-21 gene-specific bases
- (xi) SEQUENCE DESCRIPTION: SEQ ID NO:5:

GAATTGTAAT ACGACTCACT ATAGGGAGG

29

(2) INFORMATION FOR SEQ ID NO:6:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 29 base pairs
 - (B) TYPE: nucleic acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: DNA (genomic)
- (iii) HYPOTHETICAL: YES

- (ix) Features:
 - (A) NAME/KEY: PCR Primer
 - (B) 3' end has an additional 19-21 gene-specific bases

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:6:

AGATGCAATT AACCTCACT AAAGGGAGA

29

(2) INFORMATION FOR SEQ ID NO:7:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 15 base pairs
 - (B) TYPE: nucleic acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: DNA (genomic)
- (iii) HYPOTHETICAL: YES
- (ix) Features:
 - (A) NAME/KEY: Figure 15 cDNA strand

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:7:

CVAAAAAAAA AAAAA

15

(2) INFORMATION FOR SEQ ID NO:8:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 16 base pairs
 - (B) TYPE: nucleic acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: DNA (genomic)
- (iii) HYPOTHETICAL: YES
- (ix) Features:
 - (A) NAME/KEY: figure 15 Anchor Primer

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:8:

GVTTTTTTTT TTTTTT

16

(2) INFORMATION FOR SEQ ID NO:9:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 14 base pairs
 - (B) TYPE: nucleic acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: DNA (genomic)
- (iii) HYPOTHETICAL: YES

- (ix) Features:
 - (A) NAME/KEY: Figure 19 labeled poly A tail

- (xi) SEQUENCE DESCRIPTION: SEQ ID NO:9:

AAAATAAAAT AAAA

14

- (2) INFORMATION FOR SEQ ID NO:10:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 30 base pairs
 - (B) TYPE: nucleic acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear

- (ii) MOLECULE TYPE: DNA (genomic)

- (iii) HYPOTHETICAL: YES

- (ix) Features:
 - (A) NAME/KEY: Figure 22 Oligo labeling poly A tail (11mer)

- (xi) SEQUENCE DESCRIPTION: SEQ ID NO:10:

AAAAAAAAAA AAAAAAAAAA AAAAAAAAAA

30

- (2) INFORMATION FOR SEQ ID NO:11:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 11 base pairs
 - (B) TYPE: nucleic acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear

- (ii) MOLECULE TYPE: DNA (genomic)

- (iii) HYPOTHETICAL: YES

- (ix) Features:
 - (A) NAME/KEY: Figure 22 Oligo labeling poly A tail (30mer)

- (xi) SEQUENCE DESCRIPTION: SEQ ID NO:11:

AAAAAAAAAA A

11

- (2) INFORMATION FOR SEQ ID NO:12:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 21 base pairs
 - (B) TYPE: nucleic acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear

- (ii) MOLECULE TYPE: DNA (genomic)

- (iii) HYPOTHETICAL: YES

- (ix) Features:
 - (A) NAME/KEY: Figure 24 Target sequence

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:12:

TGACATAGGA CAGCGAAGGG A

21

(2) INFORMATION FOR SEQ ID NO:13:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 30 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(iii) HYPOTHETICAL: YES

(ix) Features:

- (A) NAME/KEY: Figure 32 bases 21-50 upper sequence

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:13:

ACTGTATCCT TTAGCTTCCC TCAGATCACT

30

(2) INFORMATION FOR SEQ ID NO:14:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 30 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(iii) HYPOTHETICAL: YES

(ix) Features:

- (A) NAME/KEY: Figure 32 bases 21-50 lower sequence

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:14:

ACTGTATCCT TTAAGTTCCC TCAGATCACT

30

(2) INFORMATION FOR SEQ ID NO:15:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 30 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(iii) HYPOTHETICAL: YES

(ix) Features:

- (A) NAME/KEY: Figure 32 bases 134-163 upper sequence

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:15:

ATTAGAAGAA ATGAATTTGC CAGGAAGATG

30

(2) INFORMATION FOR SEQ ID NO:16:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 30 base pairs
 - (B) TYPE: nucleic acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear

- (ii) MOLECULE TYPE: DNA (genomic)

- (iii) HYPOTHETICAL: YES

- (ix) Features:
 - (A) NAME/KEY: Figure 32 bases 134-163 lower sequence

- (xi) SEQUENCE DESCRIPTION: SEQ ID NO:16:

ATTAGAAGAA ATGAGTTTGC CAGGAAGATG

30

(2) INFORMATION FOR SEQ ID NO:17:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 30 base pairs
 - (B) TYPE: nucleic acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear

- (ii) MOLECULE TYPE: DNA (genomic)

- (iii) HYPOTHETICAL: YES

- (ix) Features:
 - (A) NAME/KEY: Figure 32 bases 211-240 upper sequence

- (xi) SEQUENCE DESCRIPTION: SEQ ID NO:17:

AGTATGATCA GATACCCATA GAAATCTGTG

30

(2) INFORMATION FOR SEQ ID NO:18:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 30 base pairs
 - (B) TYPE: nucleic acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear

- (ii) MOLECULE TYPE: DNA (genomic)

- (iii) HYPOTHETICAL: YES

- (ix) Features:
 - (A) NAME/KEY: Figure 32 bases 211-240 lower sequence

- (xi) SEQUENCE DESCRIPTION: SEQ ID NO:18:

AGTATGATCA GATACTCATA GAAATCTGTG

30

(2) INFORMATION FOR SEQ ID NO:19:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 30 base pairs
 - (B) TYPE: nucleic acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(iii) HYPOTHETICAL: YES

(ix) Features:

- (A) NAME/KEY: Figure 32 bases 440-469 upper sequence

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:19:

AGAAATTTGTA CAGAAATGGA AAAGGAAGG

30

(2) INFORMATION FOR SEQ ID NO:20:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 30 base pairs
 - (B) TYPE: nucleic acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(iii) HYPOTHETICAL: YES

(ix) Features:

- (A) NAME/KEY: Figure 32 bases 440-469 lower sequence

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:20:

AGAAATTTGTA CAGRGATGGA AAAGGAAGG

30

(2) INFORMATION FOR SEQ ID NO:21:

- (i) SEQUENCE CHARACTERISTICS:
 - (A) LENGTH: 30 base pairs
 - (B) TYPE: nucleic acid
 - (C) STRANDEDNESS: single
 - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(iii) HYPOTHETICAL: YES

(ix) Features:

- (A) NAME/KEY: Figure 32 bases 621-650 upper sequence

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:21

CATCCCGCAG GGTAAAAAA GAAAAAATCA

30

(2) INFORMATION FOR SEQ ID NO:22:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 30 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(iii) HYPOTHETICAL: YES

(ix) Features:

- (A) NAME/KEY: Figure 32 bases 621-650 lower sequence

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:22

CATCCGCAG GGTCTMAAAAA GAAAAATCA

30

(2) INFORMATION FOR SEQ ID NO:23:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 30 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(iii) HYPOTHETICAL: YES

(ix) Features:

- (A) NAME/KEY: Figure 32 bases 693-722 upper sequence

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:23

TTAGATAAAG ACTTCAGGAA GTATACTGCA

30

(2) INFORMATION FOR SEQ ID NO:24:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 30 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(iii) HYPOTHETICAL: YES

(ix) Features:

- (A) NAME/KEY: Figure 32 bases 693-722 lower sequence

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:24

TTAGATGAAG ACTTCAGGAA ATATACTGCA

30

(2) INFORMATION FOR SEQ ID NO:25:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 30 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(iii) HYPOTHETICAL: YES

(ix) Features:

- (A) NAME/KEY: Figure 32 bases 840-867 upper sequence

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:25

TAGAGCCTTT TAGAAAACAA AATCCAGACA

30

(2) INFORMATION FOR SEQ ID NO:26:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 30 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(iii) HYPOTHETICAL: YES

(ix) Features:

- (A) NAME/KEY: Figure 32 bases 840-867 lower sequence

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:26

TAGAGCCTTT TAGATAACAA AATCCAGACA

30

(2) INFORMATION FOR SEQ ID NO:27:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 30 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(iii) HYPOTHETICAL: YES

(ix) Features:

- (A) NAME/KEY: Figure 32 bases 872-901 upper sequence

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:27

TATCTATCAA TACATGGATG ATTTGTATGT

30

(2) INFORMATION FOR SEQ ID NO:28:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 30 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(iii) HYPOTHETICAL: YES

(ix) Features:

- (A) NAME/KEY: Figure 32 bases 872-901 lower sequence

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:28

TATCTATCAA TACGTGGATG ATTTGTATGT

30

(2) INFORMATION FOR SEQ ID NO:29:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 30 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(iii) HYPOTHETICAL: YES

(ix) Features:

- (A) NAME/KEY: Figure 32 bases 934-963 upper sequence

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:29

CAAAAATAGA GGAAGTGA CAACATCTGT

30

(2) INFORMATION FOR SEQ ID NO:30:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 30 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(iii) HYPOTHETICAL: YES

(ix) Features:

- (A) NAME/KEY: Figure 32 bases 934-963 lower sequence

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:30

CAAAAATAGA GGAGCTGAGA CAACATCTGT

30

(2) INFORMATION FOR SEQ ID NO:31:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 30 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(iii) HYPOTHETICAL: YES

(ix) Features:

- (A) NAME/KEY: Figure 32 bases 960-989 upper sequence

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:31

CTGTTGAGGT GGGGATTAC CACACCAGAC

30

(2) INFORMATION FOR SEQ ID NO:32:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 30 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(iii) HYPOTHETICAL: YES

(ix) Features:

- (A) NAME/KEY: Figure 32 bases 960-989 lower sequence

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:32

CTGTTGAGGT GGGGACTTAC CACACCAGAC

30